CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESPONSES TO WRITTEN PUBLIC COMMENTS ON THE JULY 2004 DRAFT FINAL STAFF REPORT FOR

AMENDMENTS TO THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS

FOR

THE CONTROL OF SALT AND BORON DISCHARGES INTO THE LOWER SAN JOAQUIN RIVER

September 2004

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Introduction

On 25 November 2003 a draft Regional Board staff report for a Basin Plan Amendment for the Control of Salt and Boron Discharges into the Lower San Joaquin River was released for public review. Regional Board staff received extensive public comments on the November 2003 report. On 9 August 2004 staff released a response to written comments received on the November 2003 public review draft staff report. Additionally, On 26 July 2004 staff released a revised draft final staff report that included revisions intended to address public comments on the November 2003 draft. This document contains a summary of the written comments on the July 2004 draft final staff report along with staff response to those comments.

Comments were received on or before 25 August 2004 from the following organizations:

1) The City of Turlock
2) San Joaquin County Flood Control and Water Conservation District
3) San Joaquin River Exchange Contractors
4) Turlock Irrigation District

The comments from interested persons are presented below. Comments from interested persons are generally shown as direct quotes, however, in some cases formatting changes were necessary. Each comment is followed by staff's response. This document incorporates the majority of comment material submitted to the Regional Board, but it is not all-inclusive. Regional Board staff has made its best efforts to identify, evaluate, and address all of the pertinent comments that were submitted. In most cases introductory and closing remarks have been omitted.

Comments received after 25 August 2004 will be considered and responded to in the 10 September hearing to consider adoption of a Basin Plan Amendment on the Control of Salt and Boron Discharges into the Lower San Joaquin River. As of 8 September, additional written comments had been received from:

1) Patrick Porgans and Associates
2) City of Modesto

Copies of the comment letters are attached

Comment Letter # 1 The City of Turlock

Comment #1.1

The City of Turlock ("City") appreciates the opportunity to provide the Regional Water Quality Control Board, Central Valley Region, ("Regional Board) with comment on the July 2004 Draft Final Basin Plan Amendment Staff Report and Technical TMDL for the Control of Salt and Boron Discharges in the San Joaquin River ("Revised Salt/Boron TMDL"). The City hereby incorporates by reference its January 20, 2004 comments, as applicable, and provides the following additional comment on the Revised Salt/Boron TMDL's Economic Analysis (Appendix 4).

Response:
Comment noted

Comment #1.2

Appendix 4 cites the City of Turlock's cost estimate for advanced treatment necessary to meet the new wasteload allocations for TDS/EC. Specifically, Appendix 4 at 4-21 states that "the city of Turlock estimates that construction of a micro-filtration reverse osmosis (MF/RO) treatment system for the City of Turlock would have a capital cost of approximately 70 million dollars, and annual operation and maintenance costs of about 8 million dollars per year (Downey Brandt, 2004)." The Regional Board proceeds to explain that the capital cost estimates are based on a design capacity of 20 million gallons per day ("mgd") and also sets forth the annualized cost. Subsequently, the Regional Board recognizes that advanced treatment of only a portion of the City's entire flow may be sufficient to meet new wasteload allocations for TDS/EC (advanced treatment of some portion of the flow blended with the remaining flow may accomplish the necessary reductions), and sets forth analysis to calculate the cost of treatment, operation and maintenance, and brine disposal costs for partial flow treatment and disposal. *See* Appendix 4 at 4-24.

First, the Regional Board incorrectly cited the City's cost estimate. The City recently provided the Regional Board with an updated cost estimate for advanced treatment necessary to meet the new wasteload allocations for TDS/EC, a copy of which is enclosed. The updated cost estimate is less than the cost estimate cited by the Regional Board (mostly because the updated cost estimate is based on advanced treatment of partial flows (8.2 mgd)). Second, the City believes that the cost to comply, even with only partial flow treatment, is severely underestimated in the Revised Salt/Boron TMDL. The City's enclosed cost estimate for partial flow treatment (which excludes brine disposal cost) is far greater than the Regional Board's calculated cost estimate (which includes brine disposal cost). The Regional Board's cost estimate is $1.8 million per year for treatment, O&M, and brine disposal versus the City's cost estimate of $4.4 (microfiltration/ reverse osmosis) to $7.6 (coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis) million per year for treatment and O&M, but not brine disposal. *See* enclosed Cost Impact Analysis of the Draft San Joaquin River Salts TMDL on the City of Turlock Water Quality Control Facility, June 2004. To ensure accuracy, the City requests the Regional Board update the Revised Salt/Boron TMDL with the City's enclosed cost estimate.

Response:
Staff cited the cost estimates that were provided to the Regional Board in the City's comments dated 20 January 2004. The revised cost estimates provided by the city on 29 July were received after the modification to the economic analysis (Appendix 4) was completed and released for public review on 26 July 2004.

The major difference between staff's cost estimate for microfiltration/reverse osmosis (MF/RO) treatment and the City's cost estimate stems from the assumed volume of wastewater requiring treatment. Staff's calculation of treatment need is based on Turlock's historic effluent discharge quality and volume (approximately 10 mgd), while the City's calculation is based on historic effluent quality and a design capacity of 20 mgd. Staff did not evaluate the costs associated with a coagulation and filtration, high lime, granular activated carbon, and reverse osmosis treatment process because it was not clear why this more expensive treatment process would be necessary. As stated in the economic analysis, advanced MF/RO treatment of wastewater represents a worst-case (i.e. most expensive) cost scenario for municipal and industrial dischargers, and is presented in this economic analysis to be conservative. Municipal and industrial dischargers will most likely seek less expensive methods to comply with waste load allocations, including source control, land disposal, pollutant trading, and improvements to supply water quality.

The City's comments and cost estimates are noted, and will be included in the administrative record for the proposed Basin Plan amendment.

Comment Letter # 2 San Joaquin County Flood Control and Water Conservation District

Comment #2.1

The San Joaquin County Flood Control and Water Conservation District and San Joaquin County (County) support the adoption of the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges into the Lower San Joaquin River as presented in the Draft Final Staff Report dated July 2004. The following are the County's specific comments:

Support of the Draft Basin Plan Amendment:
It is essential that the Regional Water Quality Control Board (Regional Board) address the salinity problem of the lower San Joaquin River; the adoption and implementation of the proposed Basin Plan Amendments is a first step in that effort. Although we encourage the Regional Board to do more, we recognize that adoption of the proposed Basin Plan Amendment is an initial step in the right direction.

Response:
Comment noted

Comment #2.2

Support of the request that the State Board utilize its water rights authority to attain existing and new water quality standards:
San Joaquin County supports the Regional Board staff's recommendation that the State Water Resources Control Board (State Board) utilize its authority to meet the existing and new water quality standards. During the March meeting with San Joaquin County water interests and Regional Board staff, the County encouraged the Regional Board to collaborate with the State Board to improve the water quality of the lower San Joaquin River. At that time, we recognized the State Board's authority to assist to solve the water quality issues of the San Joaquin River due to the State Board's jurisdiction over water rights. As it was noted at that time, State Board Decision 1641 obligates numerous water right permits, including the water right permits serving the San Luis Unit on the westside of the San Joaquin River valley, to meet the San Joaquin River salinity objective at Vernalis. The State Board should be using its authority to meaningfully assist in the attainment of the water quality standards of the lower San Joaquin River.

Response:
Comment noted

Comment #2.3

Support Regional Board's commitment to adopt water quality objectives upstream of Vernalis by June 2006:

San Joaquin County has consistently requested that the Regional Board move forward "promptly" to establish water quality objectives upstream of Vernalis. The County supports the Basin Plan Amendment that indicates that salinity and boron water quality objectives for the San Joaquin River from Mendota Dam to the Airport Way Bridge, near Vernalis will be developed and considered for adoption by the Regional Board in June 2006. These new upstream objectives should be at least the same as the Vernalis objective in order to protect beneficial uses upstream of Vernalis.

It is imperative that the Regional Board and its staff diligently move forward with the adoption of new water quality objectives upstream of Vernalis. It is noted with concern that the response to the County's January 22, 2004, comment letter indicates that establishing water quality objectives will be extremely difficult and may take three to five years. The Basin Plan Amendment commits to an adoption date target within the next two years and this June 2006 date needs to be met by the Regional Board. No more delays should occur. San Joaquin County has been waiting for action to improve the San Joaquin River for over 40 years.

Response:

The proposed Basin Plan amendment contains a schedule for developing water quality objectives for the LSJR upstream of Vernalis.

Comment #2.4

The Regional Board needs to require in the Management Agency Agreement meaningful progress by the Bureau to meet responsibilities in manner that decreases demands on New Melones Reservoir:

The staff report indicates that State Water Resources Control Board Decision 1641 "conditioned the United States Bureau of Reclamation's (Bureau) water rights on attainment of salinity water quality objectives at the Airport Way Bridge near Vernalis" and that "despite conditions contained in D 1641, salinity remains a long-term water quality problem in the lower San Joaquin River." The staff report further indicates that "to date, this responsibility has been met through Bureau water released from New Melones Reservoir to dilute salt concentrations at Vernalis"; however, it is noted that with the current New Melones Reservoir releases the "Vernalis salinity water quality objectives will, however, continue to be exceeded even if these water quality releases are continued." It is further noted that water quality exceedances will occur even if New Melones Reservoir was operated with no water release restrictions. Staff recognizes that dilution flows from New Melones Reservoir are not adequate to meet the Vernalis objectives and other measures must also be implemented. The Bureau must implement measures to meet the water quality objectives other than solely providing releases from New Melones Reservoir. By doing so, San Joaquin County water interests would be afforded its prior right to water from New Melones Reservoir consistent with their contracts and the Watershed Protection Statute (Wat. Code § 11460), which continue to be violated by the United States Bureau of Reclamation's current practices.

Response:
The proposed Basin Plan amendment holds the USBR accountable for salts in supply water imported to the San Joaquin River Basin that exceed 52 mg/L. The proposed amendment would allow the USBR to continue to use dilution flows to mitigate for salt imports. Other methods of compliance, such as recirculation or implementation of salinity controls, however, would also be consistent with the amendment. Additionally, the proposed amendment will establish an implementation framework that can be used to implement salinity water quality objectives that are established upstream of Vernalis. Establishment of new water quality objectives would not change the USBR's level of responsibility (from what is being proposed by this amendment), but it would require the USBR to provide mitigation upstream of the Stanislaus River, possibly reducing the USBR's reliance on New Melones water to meet salinity water quality objectives.

The basin plan amendment does not address water rights, with the exception of making recommendations to the State Water Board.

Comment Letter # 3 San Joaquin River Exchange Contractors

Comment #3.1

The Exchange Contractors have submitted extensive comments regarding the proposed Salt/Boron TMDL/Basin Plan Amendments and we reiterate our previous comments. Staff's responses to our comments have not resolved the issues we have raised regarding the proposed TMDL and Basin Plan Amendments. Although we applaud some aspects of the TMDL that attempt to hold the United States Bureau of Reclamation responsible for the Central Valley Project's impacts to San Joaquin River water quality, many other portions of the proposed TMDL are logically flawed. Most disturbing is the fact that the proposed TMDL will place significant financial burdens on local growers and likely not result in meaningful water quality improvements in the river.

Response:

Response was provided to prior comments in the July 2004 *Responses to Written Public Comments on the November 2003 Draft Staff Report for Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges Into the Lower San Joaquin River.*

Comment #3.2

Fortunately, stakeholders throughout the Central Valley have recognized the deficiencies of the proposed salinity TMDL and have organized a broad based group that is developing a comprehensive plan to improve water quality in the San Joaquin River. This group, called the San Joaquin River Water Quality Management Group (SJRWQMG), has the ability to utilize tools that are not available to the Regional Board. As a result, the SJRWQMG is better able to develop a practical and economically viable program. This group is working diligently to develop this comprehensive plan and is scheduled to complete its plan within a few months. We urge the Regional Board to allow this group to maintain its progress toward developing a broad based comprehensive water quality improvement program for the San Joaquin River. Adoption of this TMDL, at this time, will stifle the progress this group has made over the last several months.

Response:

Changes have been made to the proposed staff report specifically to address this concern. The proposed Basin Plan language in the November 2003 draft staff included the following:

> *"The Regional Board encourages real-time water quality management and pollutant trading of waste load allocations, load allocations, and supply water allocations as a means for attaining salt and boron water quality objectives while maximizing the export of salts out of the LSJR watershed."*

The following language was appended to this item in the July 2004 draft staff report to clarify that efforts proposed by the SJRWQMG are not precluded by the proposed control program:

"This control program shall in no way preclude basinwide stakeholder efforts to attain salinity water quality objectives in the LSJR so long as such efforts are consistent with the control program."

Comment #3.3

Consumptive Use Allowance

It is unclear how the proposed basin plan amendment language provides for a consumptive use allowance as detailed in the technical TMDL and staff report when a party is not utilizing the real-time allocations. It may be helpful to clarify how the consumptive use allowance is factored into subarea allocations.

Response:

Table IV-8 in the proposed Basin Plan language has been appended, in a late revision, to include the consumptive use allowance (CUA) that is described in the TMDL. This change is consistent with the description of the TMDL and allocations found in the staff report and technical TMDL report (Appendix 1). The CUA is an additional loading allowance available to all discharges in addition to either the base load allocations or real time load allocations. Following is the new language that follows the 'Apportioning of Salt Load Allocations' section of table IV-8:

"In addition to the base load allocations or real-time load allocations shown above, a consumptive use allowance (L_{CUA}) is provided to each discharger:

*L_{CUA} in tons per month = discharge volume in acre-feet per month * 230 µS/cm * 0.8293"*

Comment #3.4

Real-Time allocations for parties operating under WDRs

The Basin Plan Amendment language does not seem to allow nonpoint source parties operating under waste discharge requirements (WDRs) to utilize the real-time management program. Page 14, section 3 and page 16, section 17 should be amended to allow those parties operating under WDRs to participate in the real-time management program. There is no reason to penalize nonpoint source holders of WDRs by preventing them from utilizing a real-time program to maintain a salt balance on their lands.

Response:

Staff intended to include this change in the July 2004 draft of the staff report. The Board will have discretion to implement base load allocations or real time allocations through either Waste Discharge Requirements or waivers of WDRs. Table IV-8 in the proposed Basin Plan language has been appended, in a late revision, to include language that allows those operating under WDRs to participate in a real-time management program. Item 4 of the Control Program has been modified as follows (underlined text is new):

"The Regional Board will adopt waste discharge requirements with fixed monthly base load allocations specified as effluent lLimits for nonpoint source discharges that do not meet conditions specified in a waiver of waste discharge requirements for salinity management. Entities operating under WDRs, or that will be required to operate under

WDRs in order to comply with other programs, may participate in a Regional Board approved real-time management program if they meet conditions specified in a waiver of WDRs for salinity management, as described in item 3."

Comment #3.5

Upstream Standards

As we have indicated in our previous letters, the Regional Board must look at the broad policy issues when it examines the establishment of salinity standards upstream of Vernalis. Establishing inappropriate objective above Vernalis, especially upstream of the Merced River, will result in significant unintended consequences and major economic hardship on an already fragile region of the state.

Response:

The proposed control program provides only a framework for how upstream objectives will be implemented. No upstream objectives are proposed at this time. Only a timeline for developing upstream objectives is proposed at this time.

Comment #3.6

Groundwater Control Program

Although a groundwater control program may be necessary in certain regions of the Valley, the proposed Basin Plan Amendment language is extremely vague and raises many questions without providing any useful guidance on the issue. Considering the lack of detail, it does not seem useful to incorporate such vague language into the Basin Plan.

Response:

The following Basin Plan language was added as item 15 of the proposed Control Program to the July 2004 draft of the staff report:

"A groundwater control program for sources of salt discharges into the LSJR will be developed by June 2020 if water quality objectives in the LSJR are not being attained."

This language was added to address concerns that the proposed control program was not addressing the salt contribution from groundwater sources. Addition of this language clarifies that additional work may be necessary if water quality objectives in the LSJR cannot be attained by surface water control alone.

Comment #3.7

The Exchange Contractors are committed to helping develop rational solutions to actual water quality problems in the state. We are often frustrated by the lack of sound science and basic common sense of many regulatory programs. This perspective may be a result of our practical nature and our unwillingness to yield to artificial institutional barriers. We are very encouraged by the collaborative efforts of all the members of the San Joaquin River Water Quality Management Group. We believe that this group has a unique set of tools that can be utilized to implement practical solutions to very difficult water quality problems. Their commitment to develop a comprehensive program to address a variety of water related problems on the San

Joaquin River gives us hope that we can resolve many of the seemingly intractable problems in the San Joaquin River Basin.

We urge the Regional Board to continue to support this process and to postpone adoption of the salinity Basin Plan Amendment until this group has been given a chance to develop its plan.

Response:
The Control Program in the proposed Basin Plan Amendment does not preclude the efforts of the San Joaquin River Water Quality Management Group, or any other group that intends to implement elements of the Control. See also the response to Comment #3.2.

Comment Letter # 4 Turlock Irrigation District

Comment # 4.1

These comments are submitted on behalf of the Turlock Irrigation District (TID). TID appreciates this opportunity to comment on the July 2004 version of the proposed Basin Plan Amendment for the Control of Salt and Boron Discharges into the San Joaquin River, and Appendices ("Salt & Boron TMDL" or "TMDL") TID also appreciates the opportunities it has been given to meet with the staff to discuss their specific concerns and to attempt to find common ground. While it is apparent from this current version of the TMDL that many of TID's comments have led to modifications of the TMDL, it is equally apparent that these changes do not adequately address TID's concerns. Thus, most of TID's substantive concerns remain.

Technically, the Board is considering adopting a Basin Plan amendment to implement the technical TMDL. Because the term "TMDL" has become part of the vernacular for the combination of the technical TMDL and the waste load allocation/implementation plan, TID will use the term "TMDL" to refer to the combination of the technical TMDL and the proposed Basin Plan amendment.

Response:
Comment noted.

Comment #4.2

Before responding to the current version of the TMDL, we would like to bring to your attention recent developments on the stakeholder front. As you know, many of the stakeholders have formed a working group called the San Joaquin River Water Quality Management Group. The Group is working on developing a workable solution, which, if successful, could form the basis for viable real-time management plan that could be incorporated into this TMDL. Since many of the flaws in this TMDL could be solved with the formal incorporation of a true real-time management plan into this regulatory program, TID suggests holding off on taking action on this TMDL until after the stakeholder group has an opportunity to develop such a plan. The Group is scheduled to have the results of their initial evaluation of available tools in the next four months. Rather than continuing down the current path which may lead to an adversarial dispute resolution, TID suggests deferring further action on the current version of the TMDL and instead scheduling a workshop in February, 2005, to update the Regional Board on the status of the Group's efforts. The Group seems to be working well together and a consensual solution would be a far better result than the current track this TMDL is now following.

Response:
The Control Program in the proposed Basin Plan Amendment does not preclude the efforts of the San Joaquin River Water Quality Management Group or any other group that intends to implement elements of the Control. See also the response to Comment #3.2.

Comment #4.3

COMMENTS TO JULY 2004 DRAFT TMDL

As an initial matter, TID wishes to note that the time allowed for public review and comment is insufficient. On April 25, 2004, the Regional Board sent out notice that, "Response to comments and a draft final staff report will be available by 23 July 2004 (45 days prior to the September 2004 Regional Board hearing)." The Basin Plan Amendment was actually not available for public review until July 26. In addition, the "Responses To Written Public Comments On The November 2003 Draft Staff Report" was not available at that time. The Board then indicated that its Response to Public Comments would be made available on August 9, 2004, 30 days before the scheduled hearing on the TMDL. In fact, the Response to Comments was not actually posted until August 12, 2004, less than 30 days before the hearing date, and barely two weeks before written comments are due on August 25, 2004. The Response to Comments is a critical piece of the public's ability to understand and respond to the current draft TMDL, as it reflects staff's thinking on the many comments that have been made by TID and others in the past. Allowing only two weeks to assimilate and respond to staff's Response to Comments is inadequate time for TID and others to assemble appropriate comments to what are clearly complex and technical issues.

TID will not reiterate here all of the comments it previously submitted to the Regional Board, most of which have not been adequately responded to by the Regional Board. Those comments remain pertinent, and TID specifically incorporates those previous comments as though fully set forth here. TID will use this opportunity to point out several specific concerns it has regarding some of the changes that have been made to the TMDL since January 2004.

Response:
Regional Board staff agrees that staff stated that the staff report would be made available on 23 July, but later revised that date to 26 July. The applicable law and regulations require that the proposed TMDL be made available for public comment for 45 days. The staff report was available for public comment for 45 days. Response to comments is not required to be provided in advance of the Regional Board meeting. The staff provided them as a courtesy to interested persons. Staff met numerous times with TID staff and its representatives, both individually and jointly, including a series of meetings and a public workshop held in March and April of 2004.

Comment #4.4

There has been Inadequate Scientific Peer Review of this TMDL

California Health and Safety Code section 57004 requires the Regional Board to "conduct an external scientific peer review of the scientific basis for any rule proposed for adoption by any board, department, or office within the agency." The process used by the Regional Board has not yet complied with this important requirement. First, there have been several significant changes to the TMDL since it was submitted for scientific peer review, including but not limited to significant changes in the conclusions drawn from the modeling results. None of these changes have been subjected to the peer review process.

In addition, the questions posed to the peer reviewers were not the appropriate questions. Section 57004 requires there to be a review of the *scientific* basis for the TMDL. Instead the questions posed to the peer reviewers so far have been *policy*-based questions (e.g., "Is a *reasonable* method described in the report . . .;" "Does the report *adequately support* the methods . . .;" "Does the report *adequately demonstrate* that it is *reasonable* to expect . . .;" "Is a *reasonable* method of accounting . . .") By couching these inquiries in terms of "*reasonableness*," or "*adequacy*," the Regional Board has asked the peer reviewers to make value-based judgments, rather than scientific judgments. The appropriate questions that must be posed under section 57004 are those that ask whether the TMDL is based on sound scientific methodology and data, whether the TMDL has made appropriate scientific inquiry, whether the studies relied on by the TMDL were themselves scientifically appropriate and valid, and whether the conclusions drawn by the scientific work are justified by sound scientific analysis. Asking whether policy decisions embedded in the TMDL are "reasonable" is neither "scientific" nor the appropriate scope of review under section 57004.

The peer reviewers' struggle to respond to the questions posed is apparent from their answers. In various places they write, "I am not sure of how to respond to this question?" "I am not sure how the salt load in the supply water is accounted for." "Is treatment really feasible?" "The method of accounting for the water quality impacts of the consumptive use of water *appears* reasonable." (Emphasis added); "The method of assigning responsibility for salt loads in agricultural and wetland supply water *appears* reasonable." (Emphasis added). These comments suggest the peer reviewers are confused by their responsibility to review scientific methodology as contrasted with the policy questions being posed.

Since the TMDL has been substantially revised since it was originally submitted for peer review, and since the questions originally posed to the peer reviewers were inappropriate questions, the TMDL must be resubmitted for scientific peer review, with appropriate, *scientific* questions posed.

Response:
The commenter is not specific about what constituted a significant change except for "conclusions drawn from the modeling results." There have, in fact, been no significant changes in either the technical basis or proposed Basin Plan amendment language between the September 2003 Peer Review Draft and the July 2004 Draft. An expanded discussion of the modeling results was, however, included in the July 2004 final draft staff report, but this addition would not have any bearing on the questions asked to peer reviewers or their responses. This expanded discussion only indicated that the model results did not fully account for USBR's full level of mitigation as proposed in the TMDL and control program and therefore implementation of alternatives 3 or 4 would result in a greater than predicted level of water quality improvement. No changes to the modeling were made subsequent to peer review of the proposed Basin Plan amendment, and more importantly there was no change in the recommended alternative or the proposed amendment language that was based on interpretation of model result results.

Questions posed to peer reviewers asked if various analytical methods used were reasonable and adequate. The questions did not concern policy; rather they concerned specific technical and scientific elements upon which the proposed Basin Plan Amendment was based, including: determination of assimilative capacity; waste load and load allocations; attainment of standards;

water quality impacts of the consumptive use of water; salt loading and; allocation of load (assignment of responsibility). The framing of questions for peer review and the method in which the peer review was conducted followed "Guidelines for Obtaining External Scientific Peer Review" (Pettit, 1998) issued by the State Board's Executive Director, as described in the July 2004 *Appendix 6: Peer Review Comments And Responses.*

Comment #4.5

The TMDL Improperly Relies on Undefined "Real Time Management" and other Undefined Mitigation Measures

Throughout the TMDL and its supporting appendices are references to "real time management" as the panacea that will make this TMDL work and avoid or mitigate all adverse environmental and economic consequences that have been identified as otherwise flowing from this TMDL. The TMDL, however, still fails to specifically develop such a "Real Time Management" plan. The TMDL's continued reliance on an undefined and unadopted "Real Time Management" plan cannot substitute for a true evaluation of the environmental, economic, and social consequences of this TMDL.

Mitigation measures must be fully defined at the time a project is adopted, not simply deferred to a later date. While TID and other affected parties have made individual commitments to *try* to develop a mutually acceptable real-time management program, there are no guarantees that all parties will ultimately agree on any particular program. Nor is there any guarantee that a program agreed to by the stakeholders will ultimately be approved and adopted by the Regional Board. The TMDL cannot rely on undefined, future mitigation measures to avoid addressing the environmental, economic, and social consequences of the TMDL that *will* be implemented if no such real-time management plan comes to fruition.

The TMDL also relies on other undefined mitigation measures, particularly actions and future agreement with other agencies and governmental entities. (See pages 34-39). As with "real time management," these speculative future actions cannot be relied on to either render the TMDL effective or to ameliorate the adverse impacts of the current proposal.

Response:

This comment appears to conflict with Comment #4.2 that states that the San Joaquin River Water Quality Management Group "*is working on developing a workable solution, which, if successful, could form the basis for viable real-time management plan that could be incorporated into this TMDL*." It is just such efforts that the Basin Plan Amendment is attempting to encourage. Inclusion of more specific elements for a real-time management program at this time would likely meet with the same level of concern that the current action has elicited. The proposed Basin Plan amendment therefore provides incentive and flexibility because more specific requirements are not specified for real-time management. The Basin Plan amendment does, however, describe, the potential environmental and economic effects of the proposed regulation if the base load allocations are implemented (e.g. no real-time management is successfully implemented).

Comment #4.6

The TMDL Still Fails to Give Adequate Consideration to Environmental, Economic, and Social Factors

The Regional Board is required to evaluate, among other things, economic factors. (See Water Code §§13241 and 13263). The Response to Comments claims that the Board is not required to consider the section 13241 factors because this is merely an "implementation plan," not a "Water Quality Objective." The Response to Comments cites to section 13242 of the Water Code to justify its decision to ignore the section 13241 factors. The Regional Board is incorrect in this regard.

Section 13242 does not purport to set out factors to consider when developing an implementation plan. Rather, section 13242 simply sets out the requirements for the *contents* of an implementation plan. The "implementation plan" is part and parcel of the Water Quality Objective itself, and Water Quality Objectives cannot be divorced from the plan by which that Water Quality Objective will be achieved.

Moreover, the TMDL establishes a *de facto* "discharge limit" of 315 uS/cm (the "trigger value"). At times of critical low flow, discharges in excess of this limit are prohibited. Establishment of this new discharge limit clearly triggers a section 13241 analysis under section 13263.

Furthermore, as noted in previous comments by TID and others, the TMDL has failed to adequately consider the social and environmental changes that will flow from the adoption of the TMDL. The Response to Comments claims the TMDL is not required to consider these changes at this time, since they can be reviewed when specific programs are implemented, analogizing to a "tiered" EIR process. This analysis is incorrect. This TMDL *is* a "project." It is not simply a "program" subject to further environmental review later. As noted above, if no "real time management" plan is developed, the default "Fixed Base Load Allocation" TMDL remains in effect. The Response to Comments' refusal to acknowledge that there is, in fact, a "default TMDL" ignores this reality.

Response:
Water Code section 13241 provides the factors the Regional Board must consider in establishing water quality objectives. The action proposed does not include the adoption of water quality objectives, therefore, the factors in section 13241 need not be considered. The program of implementation must include certain elements as specified in Water Code section 13242. Those elements do not include the factors in Section 13241.

The trigger value of 315 uS/cm merely sets a threshold at which discharges are not subject to the control program. Nonpoint source dischargers may discharge at any concentration per the description in the Control Program, as long as load allocations are met. Clarifying language was added to table IV-8 of the proposed Basin Plan amendment language (see response to Comment #3.3).

This "project" is a program that is appropriate to be the subject to a tiered environmental document. The Basin Plan amendment includes CEQA and economic analyses that describe the potential environmental and economic effects of the proposed regulation.

Comment #4.7

The New Concept of "Dilution Flows," as Currently Proposed, is not Rationally Related to Achieving the TMDL's Objective

The current draft TMDL introduces an entirely new concept, allowing an "assimilative capacity" credit for flows which do not exceed the Water Quality Objective and which therefore provide dilution for otherwise non-compliant flows. (Page 15, paragraphs 11 and 12). This is a very important concept, and one for which TID has been advocating. The EC Water Quality Objective is a concentration-based Objective, and any flows discharged into the San Joaquin River that are lower than the Water Quality Objective provide additional assimilative capacity for higher EC flows. Thus, *any* discharge below the Water Quality Objective *benefits* the River.

While TID supports the *concept* of providing assimilative capacity credits for discharges that are below the Water Quality Objective, it cannot support the specific way this concept has been incorporated into the TMDL. As currently written, the credit for dilution is allowed only if these flows are "for the express purpose of providing dilution flow." (Page 15, paragraph 11). The assimilative capacity benefit of these low-EC flows is not a function of the *intent* of the party discharging them. Limiting "assimilative capacity" credits to those flows specifically *intended* to provide dilution is not rationally related to the purpose of the TMDL, and violates the due process and equal protection guarantees of the federal and State Constitutions.

It seems that a reference in Paragraph 12 to "trade[ing of dilution flows], as described in item 11" should instead be a reference to trading of waste load allocations contained in item 9, not item 11.

This new concept of assimilative capacity credits and waste load allocation trading has also never been subjected to a proper scientific peer review process.

Response:
The concept of assimilative capacity credits in the July 2004 draft is a new Control Program element that was added to address comments received regarding the need to allow for creative technical solutions that are outside the direct authority of the regional Board. The Control Program draws a distinction between the discharge of waste (e.g. as in agricultural return flows) and discharges made "for the express purpose of providing dilution flow." Pursuant to CWC section 13263(g), no person has the right to discharge waste. Those persons subject to this TMDL discharge waste to waters of the State. A further distinction is made between discharges provided "for the express purpose of providing dilution flow" versus discharges made to provide "a supply water to be consumptively used upstream of the San Joaquin River at the Airport Way Bridge near Vernalis." The proposed TMDL does not violate due process considerations because all interested persons have been provided the opportunity to comment and participate in the process. The proposed changes to the TMDL do not violate constitutional principals of equal protection.

A late revision is being proposed to correct the reference in item 11 in the Control Program to item 9 (load trading). The late revision, however, is also renumbering all elements after item 5.

Comment #4.8

This Version of the TMDL Perpetuates the Inadequate Consideration of Alternatives

As TID has observed before, the TMDL fails to adequately consider several alternatives. Among these is conducting a Use Attainability Analysis for the EC Water Quality Objective. As noted in earlier comments, the State Water Board recognizes that information developed during the development of a TMDL may call into question the targeted Water Quality Objective itself. *See* State of California S.B. 469 TMDL Guidance, A Process for Addressing Impaired Waters in California, Page 6-4 (SWRCB, Draft December 3, 2003). Even though it is clear that the TMDL cannot and will not achieve consistent compliance with the Water Quality Objective, the TMDL fails to consider modifying the EC Water Quality Objective as an alternative.

The Response to Comments justifies this failure on the ground that the Regional Board does not have authority to revise the Water Quality Objective. It is not necessary, however, for the *Regional Board* to have authority to actually modify the objective. The Regional Board certainly has the ability to *evaluate* the Water Quality Objective and make appropriate recommendations to the State Board if it finds the Water Quality Objective is not achievable and should be modified. Ignoring the evidence is not an appropriate response to this viable alternative.

See, for example, Response to Comments, page 74, Response to Comment # 6.45: "Our [staff's] analysis indicates that exceedances of the water quality objective will persist if any of the alternatives are implemented, including complete prohibition of discharge."

Indeed, the TMDL recognizes the Regional Board does not have sufficient authority to implement a TMDL that will actually work. The TMDL does purport to make recommendations to the State Board on issues over which the Regional Board does not have authority, for example, on issues of water rights.

Response:

As stated in our August 2004 Response to Comment #6.45, "*Staff does not believe that the limits of the Regional Boards authority in providing a guarantee that water quality objectives will be met 100 percent of the time is a legitimate reason for not completing a TMDL. Failure to develop a TMDL for a 303(d) listed waterbody is contradictory to the intent the Clean Water Act."* There is no reason to conduct a Use Attainability Analysis at this time; a combination of salt load reduction actions per the proposed Control Program, in conjunction with continued State Board conditioning of water rights that includes possible flow augmentation, should result in attainment of standards.

Comment #4.9

The Current Water Quality Objective Cannot Form the Basis for imposing this TMDL because it never considered the consequences of this TMDL

As noted above, Section 13241 requires consideration of a variety of factors when adopting a Water Quality Objective, including the economic cost of compliance. Section 13242 requires that an implementation plan be adopted along with the Water Quality Objective. The Water Quality Objective being implemented here, the EC Objective for the San Joaquin River at Airport Way Bridge, Vernalis, contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (95-1WR, May 1995), is not a valid basis for imposing this TMDL because it never considered the economic consequences and other factors required by section 13241 in relation to the TMDL. Those factors could not have been considered at the time the water Quality Objective was adopted, since they could not possibly have been known until this draft TMDL was developed. Similarly, the EC Water Quality Objective at Vernalis, when adopted, was required by section 13242 to include an implementation plan. The Vernalis EC Objective clearly did not include this TMDL's implementation plan as required by Section 13242. The TMDL's attempt to implement the Vernalis EC Objective without compliance with sections 13241 and 13242 bypasses these two important sections of the Water Code, which embody the Legislature's fundamental mandate that regulation of water quality be *reasonable.* (See Water Code section 13000 and 13050(h) and (l)).

Response:
This TMDL does not adopt a new water quality objective, therefore, Water Code section 13241 does not apply. Water Code section 13242 does not require consideration of the factors listed in Water Code section 13241.

Comment #4.10

The TMDL's Reference to the State's Anti-Degradation Policy is Incomplete and Inappropriate

TID has observed that prohibiting flows that are below the EC Water Quality Objective but which exceed the EC "trigger value" (315 uS/cm) will cause further degradation of the San Joaquin River, will inhibit the export of salt from the basin, and will result in increased degradation of groundwater. Rather than responding directly to this observation, the Response to Comments suggests that east side agricultural users of water may be violating the State's Anti-Degradation Policy, SWRCB Resolution 68-16. Response to Comments, pages 45-46, Response to Comment # 6.8. The Response states "Staff question [*sic*] weather [*sic*] the application of the existing salinity water quality objective to the east side dischargers represents the best practicable treatment or control considering that TID indicates that ' . . .concentrations in spills to the San Joaquin River and tributaries are often below the water quality objectives of 700 and 1000 EC . . .." The TMDL never actually answers the anti-degradation question it poses and, significantly, never poses the same question with respect to users on the west side.

With the TMDL's credit system, the west side will be continuing to discharge high-EC agricultural runoff into the relatively high quality water coming from the East Side, even during time of critical low flow. The TMDL never evaluates whether allowing the west side to

continue these discharges is “consistent with the maximum benefit to the people of the State” and “will not unreasonably affect present and anticipated beneficial uses.” (SWRCB Res 68-16). The TMDL never considers whether the west side will be applying the “best practicable treatment or control.” The allusion to the Anti-Degradation Policy in the Response to Comments seems to be no more than a veiled suggestion of adverse future action against those who question the appropriateness and efficacy of this TMDL.

The east side, of course, is putting its water to beneficial use when it uses it to ameliorate higher-EC water coming from groundwater wells, both so that the groundwater may be used for irrigation supply and so that tree roots won't be damaged by high groundwater. This use is not an unreasonable use. In fact, the TMDL seems intent on putting east side water to exactly the same use by making it available to dilute the west side’s saline runoff. Suggesting that east-side water rights should be conditioned on making additional supplies available for dilution of west-side salinity suggests a continued intent to impair existing water rights without just compensation.

Response:
The response to Comment #6.8 in the July 2004 Response to Comments did respond to the concerns raised with regard to potential for further degradation of the San Joaquin River, inhibition of salt exports from the basin, and increased degradation of groundwater. Staff acknowledged “that the TMDL could result in a reduction of relatively high quality water (above 315µS/cm) from the east side. Any reduction in discharge from east side tributary users, however, will be accompanied by reduced discharge from west side dischargers and/or mitigation by the USBR, so in the context of this TMDL a reduction of east side discharges should not adversely affect water quality in the LSJR..” In other, words, constraints on the ability to discharge from the east side do not occur in a vacuum. The proposed Control Program requires that other actions occur concurrently. It is therefore misleading to argue that there will be an adverse impact with regard to SJR water quality or salt exports by focusing on one separate element of the Control Program.

The question of consistency of west side discharges with the antidegradation policy has not previously been posed. The continued discharge from the west side (per supply water credits) is consistent with the State’s antidegradation policy because these discharges will occur in conjunction with salt load reductions (or dilution flow releases) by the USBR. The west side is allocated supply water credits due to the relatively poor quality of their supply water. Due to the excellent quality of supply water, the east side requires no supply water credits. If supply water credits were included for the east side, there would need to be a load reduction offset for the salt in the supply water. If this approach were used for the east side, entities such as TID and the Modesto Irrigation District would be required to offset the salt loads in the irrigation supply water. Given the excellent quality of the east side supply water, this approach was not considered a necessary or useful modification of the TMDL.

The assertion that the east side is putting its water to beneficial use when it is used to ameliorate higher-EC water coming from groundwater wells both so that the groundwater may be used for irrigation supply and so that tree roots won't be damaged by high groundwater begs the question of the source of this high EC groundwater and high groundwater. The east side may need to consider source control strategies rather than only dilution strategies to address east side salinity

water quality issues. There is no suggestion in the proposed Basin Plan amendment to use east side water to dilute west side salts.

Comment #4.11

It is not Inequitable to Require the West Side to Balance its own Salt Equation

The TMDL seems to believe that it is inequitable for the west side to bear responsibility for the salinity it discharges to the San Joaquin River. In the view of some, the salinity coming from the west side is simply the result of a "geographic accident" and the west side's lower quality water supply. This is not true. First, although the west side generally does have a lower quality water supply, than the east side, the native soils are also a significant source of salinity from the west side. The east side, too, has areas of relatively high natural soil salinity and relatively high salinity groundwater, a factor that does not appear to have been taken into account. In addition, there are good, historical reasons why the east side has a better quality water supply, mainly because the east side acted early to perfect its water rights. This was no accident. It is the result of foresight, planning, and investment. There is simply no justification for requiring the east side to bear the burden of the west side's natural and man-made salinity problems.

Response:
The east side bears no burden for the west-side's salinity problems. The TMDL and Control Program proposes salt load allocations based on acres of nonpoint source area. Allocations are evenly applied on an equal "per-acre" basis to both east and west side.

Comment #4.12

CONCLUSION

Despite the considerable time and effort devoted to this process by the Regional Board, its staff, and the stakeholders, this TMDL continues to suffer from numerous fatal flaws. Since success of this TMDL is so clearly dependent on unspecified future actions, the Regional Board should defer further action on this TMDL until those actions have come to fruition and can be specifically incorporated into a comprehensive plan. The current effort to piecemeal this flawed program in order to create an "incentive" for stakeholders to develop a program that will work is an improper use of regulatory power. The Regional Board should direct it staff to commence a stakeholder process aimed toward developing a viable plan, one that will really work to effectively and equitably reduce the salt concentrations in the Lower San Joaquin River. TID is committed to assisting the Regional Board staff in this process.

Response:
Staff has already devoted considerable time to stakeholder outreach. Between 2000 and 2003 staff held a series of public workshops to solicit information on development of the proposed TMDL and Basin Plan amendment. Two additional workshops were held at the December 2003 and January 2004 Regional Board meetings to get additional input.

Appendix

Comment Letters Received by 25 August 2004

The City of Turlock
San Joaquin County Flood Control and Water Conservation District
San Joaquin River Exchange Contractors
Turlock Irrigation District

Comment Letters After 25 August 2004 and Before 8 September 2004 Patrick

Patrick Porgans and Associates
City of Modesto

ELO

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ATTORNEYS LLP

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P: 916/444-1000
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downeybrand.com

Nicole E. Granquist
ngranquist@downeybrand.com

August 24, 2004

VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Eric Oppenheimer
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive
Suite 200
Rancho Cordova, California 95670

Re: **Comments on July 2004 Draft Final Basin Plan Amendment Staff Report and Technical TMDL for the Control of Salt and Boron Discharges in the San Joaquin River**

Dear Mr. Oppenheimer:

The City of Turlock ("City") appreciates the opportunity to provide the Regional Water Quality Control Board, Central Valley Region, ("Regional Board) with comment on the July 2004 Draft Final Basin Plan Amendment Staff Report and Technical TMDL for the Control of Salt and Boron Discharges in the San Joaquin River ("Revised Salt/Boron TMDL"). The City hereby incorporates by reference its January 20, 2004 comments, as applicable, and provides the following additional comment on the Revised Salt/Boron TMDL's Economic Analysis (Appendix 4).

Appendix 4 cites the City of Turlock's cost estimate for advanced treatment necessary to meet the new wasteload allocations for TDS/EC. Specifically, Appendix 4 at 4-21 states that "the city of Turlock estimates that construction of a micro-filtration reverse osmosis (MF/RO) treatment system for the City of Turlock would have a capital cost of approximately 70 million dollars, and annual operation and maintenance costs of about 8 million dollars per year (Downey Brandt, 2004)." The Regional Board proceeds to explain that the capital cost estimates are based on a design capacity of 20 million gallons per day ("mgd") and also sets forth the annualized cost. Subsequently, the Regional Board recognizes that advanced treatment of only a portion of the City's entire flow may be sufficient to meet new wasteload allocations for TDS/EC (advanced treatment of some portion of the flow blended with the remaining flow may accomplish the necessary reductions), and sets forth analysis to calculate the cost of treatment, operation and maintenance, and brine disposal costs for partial flow treatment and disposal. *See* Appendix 4 at 4-24.

First, the Regional Board incorrectly cited the City's cost estimate. The City recently provided the Regional Board with an updated cost estimate for advanced treatment necessary to meet the new wasteload allocations for TDS/EC, a copy of which is enclosed. The updated cost estimate is less than the cost estimate cited by the Regional Board (mostly because the updated cost estimate is based on advanced treatment of partial flows (8.2 mgd)). Second, the City believes that the cost to comply, even with only partial flow treatment, is severely underestimated in the Revised Salt/Boron TMDL. The City's enclosed cost estimate for partial flow treatment (which excludes brine disposal cost) is far greater than the Regional Board's calculated cost estimate (which includes brine disposal cost). The Regional Board's cost estimate is $1.8 million per year for treatment, O&M, and brine disposal versus the City's cost estimate of $4.4 (microfiltration/ reverse osmosis) to $7.6 (coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis) million per year for treatment and O&M, but not brine disposal. *See* enclosed Cost Impact Analysis of the Draft San Joaquin River Salts TMDL on the City of Turlock Water Quality Control Facility, June 2004. To ensure accuracy, the City requests the Regional Board update the Revised Salt/Boron TMDL with the City's enclosed cost estimate.

Thank you for your consideration of the enclosed comments. The City looks forward to working cooperatively with the Regional Board in order to implement the suggested changes.

Very truly yours,

DOWNEY BRAND LLP

Nicole E. Granquist

Enclosure

Cc: Dan Madden, City of Turlock (w/enclosure)

COST IMPACT ANALYSIS
OF THE DRAFT SAN JOAQUIN RIVER SALTS TMDL
ON THE CITY OF TURLOCK
WATER QUALITY CONTROL FACILITY

JULY 23, 2004

The City of Turlock is providing the following cost impact analysis regarding the Central Valley Regional Water Quality Control Board's (Regional Board or RWQCB) Draft Salts TMDL for the San Joaquin River. The costs presented in this analysis include the capital and operational cost of treatment facilities necessary to achieve the waste load allocations proposed in the Draft Salts TMDL. The costs presented do not include any costs associated with brine disposal, mitigation of environmental impacts, or any special studies and monitoring that may be required pursuant to the TMDL.

REQUIRED REDUCTIONS IN EFFLUENT EC LEVELS

The proposed waste load allocations are as follows:

April 1 – August 31: 700 umhos/cm
September 1 - March 31: 1000 umhos/cm

Between January 2000 and March 2004, the maximum monthly concentrations in the treatment plant effluent have been as follows:

April 1 – August 31: 932 umhos/cm (June 2001)
September 1 - March 31: 951 umhos/cm (January 2002)

The maximum monthly values, however, do not properly characterize existing performance. In other words, based on the limited number of samples over this period, it is probable that monthly average EC levels will exceed these concentrations. A common NPDES permitting method for addressing this issue and estimating "existing performance" is to utilize the mean plus three standard deviations. Using this method, existing performance for the City's wastewater treatment plant is as follows:

April 1 – August 31: 1066 umhos/cm
September 1 - March 31: 1025 umhos/cm

Based on existing performance, effluent EC levels will have to be reduced as follows in order to comply with the proposed waste load allocations:

April 1 – August 31: 345 % Reduction (1066 to 700 umhos/cm)
September 1 - March 31: 3% Reduction (1025 to 700 umhos/cm)

Treatment facilities will have to be constructed to achieve the necessary reductions during the critical summer period. These facilities may or may not have to be operated during the winter period.

REQUIRED TREATMENT CONTROLS

The City currently provides secondary treatment of its wastewater, and is in the process of implementing a project to add tertiary facilities. These facilities, however, will not reduce EC levels below historic levels. The City does not believe additional source control would have any material effect on the City's ability to comply with the EC waste load allocations. Therefore additional treatment facilities designed specifically to remove salts will be required to comply with the waste load allocations.

Faced with the currently available information, a prudent person would have to conclude that the only actions that could be taken to assure consistent compliance with the waste load allocation would be to add coagulation and filtration, high lime, granular activated carbon, and reverse osmosis facilities to the treatment plant. One possible alternative treatment scheme, which has been or is currently being assessed by several wastewater treatment agencies, is microfiltration followed by reverse osmosis. If this scheme were to prove effective, it would be less expensive than the filtration, lime, carbon, reverse osmosis scheme, but still very costly. However, there is still only a limited amount of data on the operation and performance of this scheme.

Assuming that reverse osmosis will produce zero EC water, approximately 8.2 mgd of the 20 mgd rated capacity would have to be treated by reverse osmosis facilities during the critical April 1 through August 31 period to achieve the waste load allocations.

TREATMENT COSTS

The capital and annual operation and maintenance costs for coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis (System A) and microfiltration/ reverse osmosis (System B), and are presented in Table 1. These are the additional costs that would be incurred by the City and they exclude the cost of brine disposal. Capital costs are based on constructing salt removal facilities with a capacity of 8.2 mgd, and annual O&M costs are based on operating those facilities for 5 months per year.

Table 1. Capital and Annual Operational Costs of Alternative Treatment Controls

Cost	System A	System B
Capitol Cost	$63,213,000	$32,557,000
Annual O&M Costs	$1,879,000	$2,756,000

The capital costs in Table 1 are in July 2004 Dollars (ENR 20-Cities Construction Cost Index of 7126). The capital and annual O&M costs for System A are based on *Managing Wastewater in Coastal Urban Areas*, National Research Council, 1993 (NRC). These costs were estimated by a professional engineering firm and confirmed by two nationwide surveys conducted by the Massachusetts Institute of Technology. The State Water Resources Control Board has cited this NRC publication as one that the Regional Boards should use in developing estimates for wastewater treatment costs. See the SWRCB's Functional Equivalent Document (FED) for the Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup Plans, July 1998. The capital costs in the NRC publication are based on 1991 costs (ENR Index of 4772) and have been adjusted to March 2004 dollars (ENR Index of 7126) by multiplying the 1991 costs by 1.5. The annual O&M costs have not been updated. The capital and O&M costs do not include the cost of brine disposal, which would be substantial. Excluding the cost of brine disposal, the total annual cost for System A would be $7.6 million per year, based on amortizing capital costs over 30 years at 6.5 % interest.

The capital and annual O&M costs for System B are based on City of Los Angeles-developed cost estimates which, in turn, are based on a 5 mgd microfiltration/ reverse osmosis pilot plant at the Terminal Island Wastewater Treatment Plant. The capital costs were based on 1998 costs (ENR Index of 5875) and have been adjusted to July 2004 dollars (ENR Index of 7126) by multiplying the 1998 costs by 1.21. The annual O&M costs have not been updated. The capital and O&M costs for System B do not include the cost of brine disposal, which would be substantial. Excluding the cost of brine disposal, the total annual cost for System B would be $4.4 million per year, based on amortizing capital costs over 30 years at 6.5% interest.

Thus, the net increase in costs to the City to assure consistent compliance with the proposed waste load allocations for EC during the critical April 1 to August 31 period would be between $4.4 million and $7.6 million per year. More detailed engineering studies of treatment and other alternatives, and possibly pilot studies, would be necessary to develop more accurate cost estimates. However, the above costs represent the best possible engineering estimate based on the available information.

COST IMPACT ANALYSIS
OF THE DRAFT SAN JOAQUIN RIVER SALT/BORON TMDL
ON THE CITY OF TURLOCK
WATER QUALITY CONTROL FACILITY

JULY 28, 2004

The City of Turlock (City) is providing the following cost impact analysis regarding the Central Valley Regional Water Quality Control Board's (Regional Board or RWQCB) Draft Salt/Boron TMDL for the San Joaquin River. The costs presented in this analysis include the capital and operational cost of treatment facilities necessary to achieve the waste load allocations proposed in the Draft Salts TMDL. The costs presented do not include any costs associated with brine disposal, mitigation of environmental impacts, or any special studies and monitoring that may be required pursuant to the TMDL.

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The proposed waste load allocations are as follows:

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The maximum monthly values, however, do not properly characterize existing performance. In other words, based on the limited number of samples over this period, it is probable that monthly average EC levels will exceed these concentrations. A common NPDES permitting method for addressing this issue and estimating "existing performance" is to utilize the mean plus three standard deviations. Using this method, existing performance for the City's wastewater treatment plant is as follows:

April 1 – August 31: 1066 umhos/cm
September 1 - March 31: 1025 umhos/cm

Based on existing performance, effluent EC levels will have to be reduced as follows in order to comply with the proposed waste load allocations:

April 1 – August 31: 34.5 % Reduction (1066 to 700 umhos/cm)
September 1 - March .025% Reduction (1025 to 1000 umhos/cm)

Treatment facilities will have to be constructed to achieve the necessary reductions during the critical summer period (April 1 – August 31). These facilities may or may not have to be operated during the winter period.

REQUIRED TREATMENT CONTROLS

The City currently provides secondary treatment of its wastewater, and is in the process of implementing a project to add tertiary treatment facilities. These facilities, however, will not reduce EC levels below historic levels. The City does not believe additional source control would have any material effect on the City's ability to comply with the EC waste load allocations. Therefore additional treatment facilities designed specifically to remove salts will be required to comply with the waste load allocations.

Faced with the currently available information, a prudent person would have to conclude that the only action that could be taken to assure consistent compliance with the waste load allocation would be to add coagulation and filtration, high lime, granular activated carbon, and reverse osmosis facilities to the treatment plant. One possible alternative treatment scheme, which has been, or is currently being, assessed by several wastewater treatment agencies, is micro-filtration followed by reverse osmosis. If this scheme were to prove effective, it would be less expensive than the filtration, lime, carbon, reverse osmosis scheme, but still very costly. However, there is still only a limited amount of data on the operation and performance of this scheme.

Assuming that reverse osmosis will produce *zero* EC water, approximately 8.2 mgd of the 20 mgd rated capacity would have to be treated by reverse osmosis facilities during the critical April 1 through August 31 period to achieve the waste load allocations.

TREATMENT COSTS

The capital and annual operation and maintenance costs for coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis (System A) and micro-filtration/ reverse osmosis (System B), and are presented in Table 1. These are the additional costs that would be incurred by the City and they *exclude* the cost of brine disposal. Capital costs are based on constructing salt removal facilities with a capacity of 8.2 mgd, and annual O&M costs are based on operating those facilities for 5 months per year.

Table 1. Capital and Annual Operational Costs of Alternative Treatment Controls

Cost	System A	System B
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The capital and annual O&M costs for System B are based on City of Los Angeles-developed cost estimates which, in turn, are based on a 5 mgd microfiltration/ reverse osmosis pilot plant at the Terminal Island Wastewater Treatment Plant. The capital costs were based on 1998 costs (ENR Index of 5875) and have been adjusted to July 2004 dollars (ENR Index of 7126) by multiplying the 1998 costs by 1.21. The annual O&M costs have not been updated. The capital and O&M costs for System B do not include the cost of brine disposal, which would be substantial. Excluding the cost of brine disposal, the total annual cost for System B would be $4.4 million per year, based on amortizing capital costs over 30 years at 6.5% interest.

Thus, the net increase in costs to the City to assure consistent compliance with the proposed waste load allocations for EC during the critical April 1 to August 31 period would be between $4.4 million and $7.6 million per year. More detailed engineering studies of treatment and other alternatives, and possibly pilot studies, would be necessary to develop more accurate cost estimates. However, the above costs represent the best possible engineering estimate based on the available information.

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SAN JOAQUIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
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THOMAS R. FLINN
DIRECTOR OF PUBLIC WORKS
FLOOD CONTROL ENGINEER

August 23, 2004

Mr. Eric Oppenheimer
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, # 200
Rancho Cordova, California 95670

SUBJECT: SUPPORT OF ADOPTION OF A BASIN PLAN AMENDMENT FOR THE CONTROL OF SALT AND BORON DISCHARGES INTO THE LOWER SAN JOAQUIN RIVER

Dear Mr. Oppenheimer:

The San Joaquin County Flood Control and Water Conservation District and San Joaquin County (County) support the adoption of the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges into the Lower San Joaquin River as presented in the Draft Final Staff Report dated July 2004. The following are the County's specific comments:

Support of the Draft Basin Plan Amendment:

It is essential that the Regional Water Quality Control Board (Regional Board) address the salinity problem of the lower San Joaquin River; the adoption and implementation of the proposed Basin Plan Amendments is a first step in that effort. Although we encourage the Regional Board to do more, we recognize that adoption of the proposed Basin Plan Amendment is an initial step in the right direction.

Support of the request that the State Board utilize its water rights authority to attain existing and new water quality standards:

San Joaquin County supports the Regional Board staff's recommendation that the State Water Resources Control Board (State Board) utilize its authority to meet the existing and new water quality standards. During the March meeting with San Joaquin County water interests and Regional Board staff, the County encouraged the Regional Board to collaborate with the State Board to improve the water quality of the lower San Joaquin River. At that time, we recognized the State Board's authority to assist to solve the water quality issues of the San Joaquin River due to the State Board's jurisdiction over water rights. As it was noted at that time, State Board Decision 1641 obligates numerous water right permits, including the water right permits serving the San Luis Unit on the westside of the San Joaquin River valley, to meet the San Joaquin River salinity objective at Vernalis. The State Board should be using its authority to meaningfully assist in the attainment of the water quality standards of the lower San Joaquin River.

Support Regional Board's commitment to adopt water quality objectives upstream of Vernalis by June 2006:

San Joaquin County has consistently requested that the Regional Board move forward "promptly" to establish water quality objectives upstream of Vernalis. The County supports the Basin Plan Amendment that indicates that salinity and boron water quality objectives for the San Joaquin River

from Mendota Dam to the Airport Way Bridge, near Vernalis will be developed and considered for adoption by the Regional Board in June 2006. These new upstream objectives should be at least the same as the Vernalis objective in order to protect beneficial uses upstream of Vernalis.

It is imperative that the Regional Board and its staff diligently move forward with the adoption of new water quality objectives upstream of Vernalis. It is noted with concern that the response to the County's January 22, 2004, comment letter indicates that establishing water quality objectives will be extremely difficult and may take three to five years. The Basin Plan Amendment commits to an adoption date target within the next two years and this June 2006 date needs to be met by the Regional Board. No more delays should occur. San Joaquin County has been waiting for action to improve the San Joaquin River for over 40 years.

<u>The Regional Board needs to require in the Management Agency Agreement meaningful progress by the Bureau to meet responsibilities in manner that decreases demands on New Melones Reservoir:</u>

The staff report indicates that State Water Resources Control Board Decision 1641 "conditioned the United States Bureau of Reclamation's (Bureau) water rights on attainment of salinity water quality objectives at the Airport Way Bridge near Vernalis" and that "despite conditions contained in D 1641, salinity remains a long-term water quality problem in the lower San Joaquin River." The staff report further indicates that "to date, this responsibility has been met through Bureau water released from New Melones Reservoir to dilute salt concentrations at Vernalis"; however, it is noted that with the current New Melones Reservoir releases the "Vernalis salinity water quality objectives will, however, continue to be exceeded even if these water quality releases are continued." It is further noted that water quality exceedances will occur even if New Melones Reservoir was operated with no water release restrictions. Staff recognizes that dilution flows from New Melones Reservoir are not adequate to meet the Vernalis objectives and other measures must also be implemented. The Bureau must implement measures to meet the water quality objectives other than solely providing releases from New Melones Reservoir. By doing so, San Joaquin County water interests would be afforded its prior right to water from New Melones Reservoir consistent with their contracts and the Watershed Protection Statute (Wat. Code § 11460), which continue to be violated by the United States Bureau of Reclamation's current practices.

Thank you for the opportunity to provide comments on this very important matter. The County looks forward to the adoption of the Basin Plan Amendment at the Regional Water Quality Control Board's meeting of September 9, 2004.

Sincerely,

C. MEL LYTLE, PH.D.
Water Resource Coordinator

CML:ll
WR-4H085-L1

c: Members of the Regional Water Quality Control Board
T. R. Flinn, Director of Public Works
Tom Gau, Deputy Director/Development
DeeAnne Gillick, Neumiller and Beardslee

LFG

SAN JOAQUIN RIVER EXCHANGE CONTRACTORS WATER AUTHORITY
CCID • CCC
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Consisting of 240,000 acres on the Westside of the San Joaquin Valley

August 25, 2004

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RECEIVED
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CVRWQCB

Mr. Leslie F. Grober
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive # 200
Rancho Cordova, CA 95670-6114

RE: ***The Central Valley Regional Water Quality Control Board's (CVRWQCB) Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges into the Lower San Joaquin River, Draft Final Staff Report (July 2004)***

Dear Mr. Grober:

These are the comments of the San Joaquin River Exchange Contractors Water Authority and its members, Central California Irrigation District, San Luis Canal Company, Firebaugh Canal Water District, and Columbia Canal Company (Exchange Contractors) regarding the Central Valley Regional Water Quality Control Board's (CVRWQCB) Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges into the Lower San Joaquin River, Draft Final Staff Report (July 2004).

The Exchange Contractors have submitted extensive comments regarding the proposed Sal/Boron TMDL/Basin Plan Amendments and we reiterate our previous comments. Staff's responses to our comments have not resolved the issues we have raised regarding the proposed TMDL and Basin Plan Amendments. Although we applaud some aspects of the TMDL that attempt to hold the United States Bureau of Reclamation responsible for the Central Valley Project's impacts to San Joaquin River water quality, many other portions of the proposed TMDL are logically flawed. Most disturbing is the fact that the proposed TMDL will place significant financial burdens on local growers and likely not result in meaningful water quality improvements in the river.

Fortunately, stakeholders throughout the Central Valley have recognized the deficiencies of the proposed salinity TMDL and have organized a broad based group that is developing a comprehensive plan to improve water quality in the

San Joaquin River. This group, called the San Joaquin River Water Quality Management Group (SJRWQMG), has the ability to utilize tools that are not available to the Regional Board. As a result, the SJRWQMG is better able to develop a practical and economically viable program. This group is working diligently to develop this comprehensive plan and is scheduled to complete its plan within a few months. We urge the Regional Board to allow this group to maintain its progress toward developing a broad based comprehensive water quality improvement program for the San Joaquin River. Adoption of this TMDL, at this time, will stifle the progress this group has made over the last several months.

JULY BASIN PLAN AMENDMENT LANGUAGE

Consumptive Use Allowance

It is unclear how the proposed basin plan amendment language provides for a consumptive use allowance as detailed in the technical TMDL and staff report when a party is not utilizing the real-time allocations. It may be helpful to clarify how the consumptive use allowance is factored into subarea allocations.

Real-Time allocations for parties operating under WDRs

The Basin Plan Amendment language does not seem to allow nonpoint source parties operating under waste discharge requirements (WDRs) to utilize the real-time management program. Page 14, section 3 and page 16, section 17 should be amended to allow those parties operating under WDRs to participate in the real-time management program. There is no reason to penalize nonpoint source holders of WDRs by preventing them from utilizing a real-time program to maintain a salt balance on their lands.

Upstream Standards

As we have indicated in our previous letters, the Regional Board must look at the broad policy issues when it examines the establishment of salinity standards upstream of Vernalis. Establishing inappropriate objective above Vernalis, especially upstream of the Merced River, will result in significant unintended consequences and major economic hardship on an already fragile region of the state.

Groundwater Control Program

Although a groundwater control program may be necessary in certain regions of the Valley, the proposed Basin Plan Amendment language is extremely vague and raises many questions without providing any useful guidance on the issue. Considering the lack of detail, it does not seem useful to incorporate such vague language into the Basin Plan.

CONCLUSION.

The Exchange Contractors are committed to helping develop rational solutions to actual water quality problems in the state. We are often frustrated by the lack of sound science and basic common sense of many regulatory programs. This perspective may be a result of our practical nature and our unwillingness to yield to artificial institutional barriers. We are very encouraged by the collaborative efforts of all the members of the San Joaquin River Water Quality Management Group. We believe that this group has a unique set of tools that can be utilized to implement practical solutions to very difficult water quality problems. Their commitment to develop a comprehensive program to address a variety of water related problems on the San Joaquin River gives us hope that we can resolve many of the seemingly intractable problems in the San Joaquin River Basin.

We urge the Regional Board to continue to support this process and to postpone adoption of the salinity Basin Plan Amendment until this group has been given a chance to develop its plan.

Very truly yours,

Steve Chedester,
Executive Director

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August 24, 2004

Peter W. McGaw
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Mr. Les Grober
Mr. Eric Oppenheimer
Regional Water Quality Control Board Members
Central Valley Region
11020 Sun Center Drive # 200
Rancho Cordova, CA 95670

Re: Comments of the Turlock Irrigation District on the Basin Plan Amendment for the Control of Salt and Boron Discharges into the San Joaquin River, and Appendices (July 2004) ("Salt & Boron TMDL")

Dear Mr. Grober, Mr. Oppenheimer and Members of the Board:

These comments are submitted on behalf of the Turlock Irrigation District (TID). TID appreciates this opportunity to comment on the July 2004 version of the proposed Basin Plan Amendment for the Control of Salt and Boron Discharges into the San Joaquin River, and Appendices ("Salt & Boron TMDL" or "TMDL").[1] TID also appreciates the opportunities it has been given to meet with the staff to discuss their specific concerns and to attempt to find common ground. While it is apparent from this current version of the TMDL that many of TID's comments have led to modifications of the TMDL, it is equally apparent that these changes do not adequately address TID's concerns. Thus, most of TID's substantive concerns remain.

Before responding to the current version of the TMDL, we would like to bring to your attention recent developments on the stakeholder front. As you know, many of the stakeholders have formed a working group called the San Joaquin River Water Quality Management Group. The Group is working on developing a workable solution, which, if successful, could form the basis for viable real-time management plan that could be incorporated into this TMDL. Since many of the flaws in this TMDL could be solved with the formal incorporation of a true real-time management plan into this regulatory program, TID suggests holding off on taking action on this TMDL until after the stakeholder group has an opportunity to develop such a plan. The

[1] Technically, the Board is considering adopting a Basin Plan amendment to implement the technical TMDL. Because the term "TMDL" has become part of the vernacular for the combination of the technical TMDL and the waste load allocation/implementation plan, TID will use the term "TMDL" to refer to the combination of the technical TMDL and the proposed Basin Plan amendment

Group is scheduled to have the results of their initial evaluation of available tools in the next four months. Rather than continuing down the current path which may lead to an adversarial dispute resolution, TID suggests deferring further action on the current version of the TMDL and instead scheduling a workshop in February, 2005, to update the Regional Board on the status of the Group's efforts. The Group seems to be working well together and a consensual solution would be a far better result than the current track this TMDL is now following.

COMMENTS TO JULY 2004 DRAFT TMDL

As an initial matter, TID wishes to note that the time allowed for public review and comment is insufficient. On April 25, 2004, the Regional Board sent out notice that, "Response to comments and a draft final staff report will be available by 23 July 2004 (45 days prior to the September 2004 Regional Board hearing)." The Basin Plan Amendment was actually not available for public review until July 26. In addition, the "Responses To Written Public Comments On The November 2003 Draft Staff Report" was not available at that time. The Board then indicated that its Response to Public Comments would be made available on August 9, 2004, 30 days before the scheduled hearing on the TMDL. In fact, the Response to Comments was not actually posted until August 12, 2004, less than 30 days before the hearing date, and barely two weeks before written comments are due on August 25, 2004. The Response to Comments is a critical piece of the public's ability to understand and respond to the current draft TMDL, as it reflects staff's thinking on the many comments that have been made by TID and others in the past. Allowing only two weeks to assimilate and respond to staff's Response to Comments is inadequate time for TID and others to assemble appropriate comments to what are clearly complex and technical issues.

TID will not reiterate here all of the comments it previously submitted to the Regional Board, most of which have not been adequately responded to by the Regional Board. Those comments remain pertinent, and TID specifically incorporates those previous comments as though fully set forth here. TID will use this opportunity to point out several specific concerns it has regarding some of the changes that have been made to the TMDL since January 2004.

There has been Inadequate Scientific Peer Review of this TMDL

California Health and Safety Code section 57004 requires the Regional Board to "conduct an external scientific peer review of the scientific basis for any rule proposed for adoption by any board, department, or office within the agency." The process used by the Regional Board has not yet complied with this important requirement. First, there have been several significant changes to the TMDL since it was submitted for scientific peer review.

including but not limited to significant changes in the conclusions drawn from the modeling results. None of these changes have been subjected to the peer review process.

In addition, the questions posed to the peer reviewers were not the appropriate questions. Section 57004 requires there to be a review of the *scientific* basis for the TMDL. Instead the questions posed to the peer reviewers so far have been *policy*-based questions (e.g., "Is a *reasonable* method described in the report . . .;" "Does the report *adequately support* the methods . . .;" "Does the report *adequately demonstrate* that it is *reasonable* to expect . . .;" "Is a *reasonable* method of accounting . . ."). By couching these inquiries in terms of "*reasonableness*," or "*adequacy*," the Regional Board has asked the peer reviewers to make value-based judgments, rather than scientific judgments. The appropriate questions that must be posed under section 57004 are those that ask whether the TMDL is based on sound scientific methodology and data, whether the TMDL has made appropriate scientific inquiry, whether the studies relied on by the TMDL were themselves scientifically appropriate and valid, and whether the conclusions drawn by the scientific work are justified by sound scientific analysis. Asking whether policy decisions embedded in the TMDL are "reasonable" is neither "scientific" nor the appropriate scope of review under section 57004.

The peer reviewers' struggle to respond to the questions posed is apparent from their answers. In various places they write, "I am not sure of how to respond to this question?" "I am not sure how the salt load in the supply water is accounted for." "Is treatment really feasible?" "The method of accounting for the water quality impacts of the consumptive use of water *appears* reasonable." (Emphasis added); "The method of assigning responsibility for salt loads in agricultural and wetland supply water *appears* reasonable." (Emphasis added). These comments suggest the peer reviewers are confused by their responsibility to review scientific methodology as contrasted with the policy questions being posed.

Since the TMDL has been substantially revised since it was originally submitted for peer review, and since the questions originally posed to the peer reviewers were inappropriate questions, the TMDL must be resubmitted for scientific peer review, with appropriate, *scientific* questions posed.

The TMDL Improperly Relies on Undefined "Real Time Management" and other Undefined Mitigation Measures

Throughout the TMDL and its supporting appendices are references to "real time management" as the panacea that will make this TMDL work and avoid or mitigate all adverse environmental and economic consequences that have been identified as otherwise flowing from this TMDL. The TMDL, however, still fails to specifically develop such a "Real Time Management" plan. The TMDL's continued reliance on an undefined and unadopted "Real

Time Management" plan cannot substitute for a true evaluation of the environmental, economic, and social consequences of this TMDL.

Mitigation measures must be fully defined at the time a project is adopted, not simply deferred to a later date. While TID and other affected parties have made individual commitments to *try* to develop a mutually acceptable real-time management program, there are no guarantees that all parties will ultimately agree on any particular program. Nor is there any guarantee that a program agreed to by the stakeholders will ultimately be approved and adopted by the Regional Board. The TMDL cannot rely on undefined, future mitigation measures to avoid addressing the environmental, economic, and social consequences of the TMDL that *will* be implemented if no such real-time management plan comes to fruition.

The TMDL also relies on other undefined mitigation measures, particularly actions and future agreement with other agencies and governmental entities. (See pages 34-39). As with "real time management," these speculative future actions cannot be relied on to either render the TMDL effective or to ameliorate the adverse impacts of the current proposal.

The TMDL Still Fails to Give Adequate Consideration to Environmental, Economic, and Social Factors

The Regional Board is required to evaluate, among other things, economic factors. (See Water Code §§13241 and 13263). The Response to Comments claims that the Board is not required to consider the section 13241 factors because this is merely an "implementation plan," not a "Water Quality Objective." The Response to Comments cites to section 13242 of the Water Code to justify its decision to ignore the section 13241 factors. The Regional Board is incorrect in this regard.

Section 13242 does not purport to set out factors to consider when developing an implementation plan. Rather, section 13242 simply sets out the requirements for the *contents* of an implementation plan. The "implementation plan" is part and parcel of the Water Quality Objective itself, and Water Quality Objectives cannot be divorced from the plan by which that Water Quality Objective will be achieved.

Moreover, the TMDL establishes a *de facto* "discharge limit" of 315 uS/cm (the "trigger value"). At times of critical low flow, discharges in excess of this limit are prohibited. Establishment of this new discharge limit clearly triggers a section 13241 analysis under section 13263.

Furthermore, as noted in previous comments by TID and others, the TMDL has failed to adequately consider the social and environmental changes that will flow from the adoption of the TMDL. The Response to Comments claims the TMDL is not required to consider these changes

at this time, since they can be reviewed when specific programs are implemented, analogizing to a "tiered" EIR process. This analysis is incorrect. This TMDL *is* a "project." It is not simply a "program" subject to further environmental review later. As noted above, if no "real time management" plan is developed, the default "Fixed Base Load Allocation" TMDL remains in effect. The Response to Comments' refusal to acknowledge that there is, in fact, a "default TMDL" ignores this reality.

The New Concept of "Dilution Flows," as Currently Proposed, is not Rationally Related to Achieving the TMDL's Objective

The current draft TMDL introduces an entirely new concept, allowing an "assimilative capacity" credit for flows which do not exceed the Water Quality Objective and which therefore provide dilution for otherwise non-compliant flows. (Page 15, paragraphs 11 and 12)[2]. This is a very important concept, and one for which TID has been advocating. The EC Water Quality Objective is a concentration-based Objective, and any flows discharged into the San Joaquin River that are lower than the Water Quality Objective provide additional assimilative capacity for higher EC flows. Thus, *any* discharge below the Water Quality Objective *benefits* the River.

While TID supports the *concept* of providing assimilative capacity credits for discharges that are below the Water Quality Objective, it cannot support the specific way this concept has been incorporated into the TMDL. As currently written, the credit for dilution is allowed only if these flows are "for the express purpose of providing dilution flow." (Page 15, paragraph 11). The assimilative capacity benefit of these low-EC flows is not a function of the *intent* of the party discharging them. Limiting "assimilative capacity" credits to those flows specifically *intended* to provide dilution is not rationally related to the purpose of the TMDL, and violates the due process and equal protection guarantees of the federal and State Constitutions.[3]

This Version of the TMDL Perpetuates the Inadequate Consideration of Alternatives

As TID has observed before, the TMDL fails to adequately consider several alternatives. Among these is conducting a Use Attainability Analysis for the EC Water Quality Objective. As noted in earlier comments, the State Water Board recognizes that information developed during

2 It seems that a reference in Paragraph 12 to "trade[ing of dilution flows], as described in item 11" should instead be a reference to trading of waste load allocations contained in item 9, not item 11.

3 This new concept of assimilative capacity credits and waste load allocation trading has also never been subjected to a proper scientific peer review process.

the development of a TMDL may call into question the targeted Water Quality Objective itself. *See* State of California S.B. 469 TMDL Guidance, A Process for Addressing Impaired Waters in California. Page 6-4 (SWRCB, Draft December 3, 2003). Even though it is clear that the TMDL cannot and will not achieve consistent compliance with the Water Quality Objective,[4] the TMDL fails to consider modifying the EC Water Quality Objective as an alternative.

The Response to Comments justifies this failure on the ground that the Regional Board does not have authority to revise the Water Quality Objective. It is not necessary, however, for the *Regional Board* to have authority to actually modify the objective. The Regional Board certainly has the ability to *evaluate* the Water Quality Objective and make appropriate recommendations to the State Board if it finds the Water Quality Objective is not achievable and should be modified.[5] Ignoring the evidence is not an appropriate response to this viable alternative.

The Current Water Quality Objective Cannot Form the Basis for Imposing this TMDL because it never considered the consequences of this TMDL

As noted above, Section 13241 requires consideration of a variety of factors when adopting a Water Quality Objective, including the economic cost of compliance. Section 13242 requires that an implementation plan be adopted along with the Water Quality Objective. The Water Quality Objective being implemented here, the EC Objective for the San Joaquin River at Airport Way Bridge, Vernalis, contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (95-1WR, May 1995), is not a valid basis for imposing this TMDL because it never considered the economic consequences and other factors required by section 13241 in relation to the TMDL. Those factors could not have been considered at the time the water Quality Objective was adopted, since they could not possibly have been known until this draft TMDL was developed. Similarly, the EC Water Quality Objective at Vernalis, when adopted, was required by section 13242 to include an implementation plan. The Vernalis EC Objective clearly did not include this TMDL's implementation plan as required by Section 13242. The TMDL's attempt to implement the Vernalis EC Objective without compliance with sections 13241 and 13242 bypasses these two important sections of the Water Code, which embody the Legislature's fundamental mandate that regulation of water quality be *reasonable*. (See Water Code section 13000 and 13050(h) and (l)).

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[4] See, for example, Response to Comments, page 74, Response to Comment # 6-45: "Our [staff's] analysis indicates that exceedances of the water quality objective will persist if any of the alternatives are implemented, including complete prohibition of discharge."

[5] Indeed, the TMDL recognizes the Regional Board does not have sufficient authority to implement a TMDL that will actually work. The TMDL does purport to make recommendations to the State Board on issues over which the Regional Board does not have authority, for example, on issues of water rights.

The TMDL's Reference to the State's Anti-Degradation Policy is Incomplete and Inappropriate

TID has observed that prohibiting flows that are below the EC Water Quality Objective but which exceed the EC "trigger value" (315 uS/cm) will cause further degradation of the San Joaquin River, will inhibit the export of salt from the basin, and will result in increased degradation of groundwater. Rather than responding directly to this observation, the Response to Comments suggests that east side agricultural users of water may be violating the State's Anti-Degradation Policy, SWRCB Resolution 68-16. Response to Comments, pages 45-46, Response to Comment # 6-8. The Response states "Staff question [*sic*] weather [*sic*] the application of the existing salinity water quality objective to the east side dischargers represents the best practicable treatment or control considering that TID indicates that '. . . concentrations in spills to the San Joaquin River and tributaries are often below the water quality objectives of 700 and 1000 EC . . .'" The TMDL never actually answers the anti-degradation question it poses and, significantly, never poses the same question with respect to users on the west side.

With the TMDL's credit system, the west side will be continuing to discharge high-EC agricultural runoff into the relatively high quality water coming from the East Side, even during time of critical low flow. The TMDL never evaluates whether allowing the west side to continue these discharges is "consistent with the maximum benefit to the people of the State" and "will not unreasonably affect present and anticipated beneficial uses." (SWRCB Res 68-16). The TMDL never considers whether the west side will be applying the "best practicable treatment or control." The allusion to the Anti-Degradation Policy in the Response to Comments seems to be no more than a veiled suggestion of adverse future action against those who question the appropriateness and efficacy of this TMDL.

The east side, of course, is putting its water to beneficial use when it uses it to ameliorate higher-EC water coming from groundwater wells, both so that the groundwater may be used for irrigation supply and so that tree roots won't be damaged by high groundwater. This use is not an unreasonable use. In fact, the TMDL seems intent on putting east side water to exactly the same use by making it available to dilute the west side's saline runoff. Suggesting that east-side water rights should be conditioned on making additional supplies available for dilution of west-side salinity suggests a continued intent to impair existing water rights without just compensation.

It is not Inequitable to Require the West Side to Balance its own Salt Equation

The TMDL seems to believe that it is inequitable for the west side to bear responsibility for the salinity it discharges to the San Joaquin River. In the view of some, the salinity coming

from the west side is simply the result of a "geographic accident" and the west side's lower quality water supply. This is not true. First, although the west side generally does have a lower quality water supply, than the east side, the native soils are also a significant source of salinity from the west side. The east side, too, has areas of relatively high natural soil salinity and relatively high salinity groundwater, a factor that does not appear to have been taken into account. In addition, there are good, historical reasons why the east side has a better quality water supply, mainly because the east side acted early to perfect its water rights. This was no accident. It is the result of foresight, planning, and investment. There is simply no justification for requiring the east side to bear the burden of the west side's natural and man-made salinity problems.

CONCLUSION

Despite the considerable time and effort devoted to this process by the Regional Board, its staff, and the stakeholders, this TMDL continues to suffer from numerous fatal flaws. Since success of this TMDL is so clearly dependent on unspecified future actions, the Regional Board should defer further action on this TMDL until those actions have come to fruition and can be specifically incorporated into a comprehensive plan. The current effort to piecemeal this flawed program in order to create an "incentive" for stakeholders to develop a program that will work is an improper use of regulatory power. The Regional Board should direct it staff to commence a stakeholder process aimed toward developing a viable plan, one that will really work to effectively and equitably reduce the salt concentrations in the Lower San Joaquin River. TID is committed to assisting the Regional Board staff in this process.

The Turlock Irrigation District thanks you for this opportunity to comment.

Very truly yours,

ARCHER NORRIS

Peter W. McGaw

cc: Robert Nees, Assistant General Manager, TID
Debra Lichersbach, Senior Civil Engineer, TID
Dr. Cynthia Paulson, Brown & Caldwell

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Arthur Baggett, Jr., Chair, SWRCB Robert Schneider, Chair, CRWQCB-CVR Kirk Rodgers, Reg.Director, USBR

Re: Proposed Agricultural Drainage Alleviation Plan (ADAP) - A Solution to Government-Induced Drainage Dilemma

Gentlemen:

> The drainage dilemma California agriculture is faced with today, is almost as old as irrigated agriculture in the Valley. ***Soil salinity has been recognized as a problem in the San Joaquin Valley since the 1800s.*** *The first problems were encountered between 1870 and 1915, when a rapid increase in irrigated acreage coincided with increasingly poor drainage and elevated salinity levels in the western and southern portions of the San Joaquin Valley.* [Source: USBR,CVP, Programmatic EIS, Sept. 1997, p. 11-9]

More than 100 years ago California acknowledged that it had a serious water quality problem attributable to agricultural drainage in the San Joaquin Valley (Valley). It is a problem that was destined to be exacerbated by the development of massive government water projects that have exported more than 100,000,000 acre-feet of water from the Sacramento-San Joaquin Delta into the Valley; i.e., the federal Central Valley Project (CVP) and the State Water Project (SWP). The U.S. Bureau of Reclamation (USBR) and its respective CVP water contractors are the primary parties responsible for the massive contamination and deplorable condition of the surface and ground water throughout the entire Valley. This condition was graphically evidenced in a U.S. Environmental Protection Agency's (EPA) June 1997 National Watershed Characterization, Index of Watershed Indicators, which lists the Valley as a "*More Serious Water Quality Problems – High Vulnerability*" area. According to EPA's mapindex, **the Valley is the single largest contiguous high water quality vulnerable area in the United States**. (Refer to Map 1.) The USBR/CVP was the cause of the nation's single largest wildlife drainage-related catastrophe, which occurred at the National Kesterson Wildlife Refuge in the early 1980s, and is are also the primary contributing factor to 120 miles of the San Joaquin River classified as a water quality impaired body by the SWRCB, as referred in the CWA 303(d) list. Furthermore, evidence given, as a result of P&A's cross-examination of CRWQCB staff, at the SWRCB's 1990's Bay-Delta "Water Right" hearings also attest to the fact that the USBR/CVP is primarily responsible for the "doubling of salt loads every five years" in the Valley resulting from water deliveries and agricultural drainage practices.[1]

Since the 1960's, government has developed laws, policies, plans, water quality objectives/standards and programs intended to reconcile the state's single largest water quality problem — agricultural drainage. Albeit, the record, and the current conditions of the surface and subsurface waters in the Valley are at a crisis. **The government has not only failed to develop a viable plan to reconcile its self-imposed water-quality-drainage dilemma, it's actions and/or failures to act have exacerbated the problem** by threatening the state's long-term economic viability and agricultural sustainability, destroying public trust resources and impairing the beneficial use of the public's water supply. In the past 33 years, ***Patrick Porgans & Associates (P&A), Inc.***, has worked relentlessly using all of the available tools, and our personal resources to assist, and when necessary force the government to recognize and deal with its self-imposed drainage dilemma.

The ADAP Employs a Comprehensive Regulatory Approach

The government's actions, and/or failure to act have been piece-meal, reactive and myopic. **Albeit, P&A is offering a plausible solution to the longstanding drainage dilemma in the Valley, as we are providing the Agricultural Drainage Alleviation Plan (ADAP) to the State of California and the United States,** through their respective public trust agents, i.e., the California State Water Resources Control Board (SWRCB), the California Regional Water Quality Control Board, Central Valley Region (CRWQCB),the USBR and the EPA, Region IX.

We recognize that no one agency possess all of the regulatory tools necessary to effectively implement the required actions to reconcile the drainage dilemma. However, collectively, you have the tools to make the ADAP a reality. Fortunately, the following three converging factors and forces provide a unique opportunity to formulate and implement the ADAP: 1) the proposed amendments to the San Joaquin Basin Plan for salt and boron,[2] (2) the D-1641 five-year requirement, *("The State*

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[1] SWRCB, *1998 Bay-Delta Water Rights Hearing*, Sacramento, California, Oct. 29, 1998, Reported By: Mary Gallagher, CSR #10749, pp 5915, 5916 and 5017.

[2] California Regional Water Quality Control Board, Central Valley Region, *Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges Into the San Joaquin River, Issue Summary and Responses*, Jan. 2004.

Board's recent Water Rights Decision 1641, adopted 29 December 1999 and revised 15 March 2000 in accordance with Order WR 2000-02, is expected to result in additional efforts to meet the Vernalis objectives. Various water right permits held by the Bureau are now conditioned upon implementation of the water quality objectives for agricultural beneficial uses in the southern Delta, including the San Joaquin River at Vernalis. — Despite the numerous activities listed above, staff is unable to identify a specific effort or combination of efforts that are expected to result in compliance with the water quality objectives for salt and boron upstream of Vernalis"),[3] and (3) the proposed CVP long-term contract renewals.[4] Collectively, they provide an opportunity to utilize existing regulatory tools to address and reconcile the 100-year-in-the-making drainage dilemma.[5] This plan can be implemented in a manner that is cost-effective, mutually beneficial to both the public and private sectors, and essential for the long-term economic viability and ecological well being of the State. (Background and supporting data are contained in Appendix 1, at the end of this proposed plan.) The three major components necessary for the success of the ADAP, are as follows:

Discharge-Load Objectives

The CRWQCB has the duty to establish meaningful and enforceable loads/standards. The proposed amendments to the Sacramento-San Joaquin Basin Plan, currently being formulated and considered by the CRWQCB can be used to develop Waste Discharge Requirements (WDRs) for USBR and its respective contractors. P&A's support for any proposed Basin Plan amendments is contingent upon the CRWQCB adoption of meaningful, timely and enforceable WDRs for the USBR and/or its respective water contractors. Although there are several proposals on the table (i.e., concentration, flow, modified irrigation practices and/or land retirement), the extensive degradation of the surface and groundwater resources, attributable to salt, boron and selenium loading, necessitate integration of all of the above, especially the flow component.

Request for CRWQCB Action: Properly conditioned, the WDRs will reduce salt, boron and selenium loading and discharge, provide for the improvement of surface and subsurface water quality throughout the basin and help to ensure compliance with existing water quality objectives, including the Vernalis objectives. Full compliance with the CRWQCB's WDRs and the adopted water quality objectives/standards should occur within three years, with no waivers.

Flow to Meet Load Objectives

Achievement of load objectives is integrally tied to future CVP water deliveries, application and/or reallocation of water – flow. Flow is a function within the purview of the SWRCB and must be addressed by a commitment from that Board to amend and/or condition the USBR's water right permits as referenced in WR Decision 1641.

> *The USBR's actions have caused reduced water quality of the San Joaquin River at Vernalis. Therefore, this order amends the CVP permit under which the USBR delivers water to the San Joaquin basin to require that the USBR meet the 1995 Bay–Delta Plan salinity objectives at Vernalis. The USBR has wide latitude in developing a program to achieve this result.* (Source: D-1641, p. 87)

The SWRCB D-1641 five-year provision requires the USBR to develop a long-term solution to meet water quality objectives impeding other beneficial uses/users, which it has yet to do. Furthermore the State and Regional Boards' have repeatedly sanctioned long-term delays to USBR and its CVP contractors for compliance with other water quality objectives/standards, which have and continue to impair the public's water supplies and trust related resources.

Request for SWRCB Action: We are requesting that the SWRCB use its regulatory authority to condition USBR's water right permits to ensure compliance with CRWQCB's WDRs conditions, which will require a flow component. We met with CRWQCB staff, and formally requested that it make a recommendation to its Board, to request that the SWRCB condition USBR's water right permits, so as to ensure that the required flow will be made available by USBR to meet the conditions of the WDRs to protect all beneficial uses.[6] In addition, we are requesting reassignment of the USBR's water rights appropriations in those service areas with known drainage problems.

Land Retirement-Water Reallocation Action

The USBR is preparing to initiate long-term water contract renewal with its CVP contractors in the Valley. In those service areas (e.g., San Luis Unit, and Delta Mandota Canal Unit),where there are

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[3]Ibid., CRWQCB-CVR, 2004.

[4] USBR's Central Valley Project Long-term Contract Renewal for all contractors in the San Joaquin Valley.

[5]Porgans & Associates, Inc., ***Government Induced and Publicly Funded Drainage Dilemma: Drainage Problem Surfaced in the San Joaquin Valley in the Nineteenth Century and Government Data Predicts It Will Get Worst in Twenty-First Century***, Position Paper, Jan. 1995.

[6]P&A's meeting with CRWQCB's Staff, April 15, 2004, 2:00 p.m.

known drainage problems. In such areas, USBR needs to temporarily cease renewal of all of its contracts until the ADAP or a mutually acceptable plan is developed and implemented. Equally important, is that USBR take immediate steps to initiate a "water retirement-reallocation program" in conjunction with a land retirement program. P&A proposed both programs to USBR at its *San Luis Drainage Feature Re-evaluation* (SLUDFRE) scoping meetings in 2003 and 2004.[7] To its credit, the USBR is beginning to consider non-conventional alternatives.

Request for USBR's Cooperative Action: P&A is formally requesting the Secretary of the Interior and USBR's Commissioner to postpone the proposed renewal of CVP long-term contracts in those service areas that contribute to the drainage dilemma and salt load.[8] In addition, we have also followed up on our past requests to EPA that it cease funding of TMDL's and related Clean Water Act funding to the CRWQCB. This request is consistent with EPA's position before the CRWQCB that federal funding for TMDL's may be in jeopardy if the State fails to establish and meet the load and/or water quality standards.[9]

USBR Does Not Own the Water – It Belongs to the Public: It is imperative that we not lose sight of the irrefutable fact that neither USBR nor its Central Valley Project (CVP) water contractors own the water they use. The USBR has a permit to put the water to a beneficial use and the majority of its customers only have a contract with USBR. More importantly, USBR has already put the public and its contractors at risk, by failing to provide a solution to the drainage dilemma. Any further action by USBR and/or your respective Boards' that permits it to conduct "business as usual" under these circumstances, may be construed, as a gross violation of your public trust responsibilities. It will further imperil the waters and trust resources of the state, and result in additional protracted litigation. During the SWRCB's D-1641 hearings, we reminded the State that its failure to address the drainage dilemma, would be setting the stage for a repeat of the catastrophe that Mesopotamia experienced several thousand years ago. We respectfully suggest that it is time for you to act in accordance with your trust responsibilities.

We are one drought away from what may prove to be the ultimate demise of the Bay/Delta Estuary. This last water year in California was below "normal", and drought conditions in the Colorado River Basin, which, according to USGS scientists, are worst now then during the "dust bowl", present real challenges and your utmost attention. The USBR's ongoing contribution to the impairment of the public's waters, resulting from agricultural water deliveries and drainage return flows into the rivers and Bay-Delta Estuary, and the destruction of fish and wildlife trust resources has yet to be quantified. However, there is no question regarding its general magnitude and/or the severity of its devastating socioeconomic and environmental impacts. In the late 1980's and early 1990s, the USBR illegally exported hundreds-of-thousands acre-feet of water from the Delta, in violation of the terms and conditions of its water right permits.[10] SWRCB's Exhibits 19 and 20, *(Summary of Recent Decision 1485 Violations)*, documented over 200 days of violations between Water-Year 1988 through Water-Year 1992 (Refer to Attachments 2 and 3.)The SWRCB's record also states that the USBR and the California Department of Water Resources (DWR), collectively illegally impounded and/or exported approximately 325,000 acre-feet of water during that period, valued at $29,000,000.00. P&A fought for three years to have the SWRCB hold the USBR and DWR accountable for violating the terms and conditions of their respective water right permits. The SWRCB held a hearing, documented the water quality violations of their respective water right permits and the illegal water export, but opted not to take an enforcement action against either the USBR or DWR. We obtained the support of 17 State legislators, who signed a letter, which was sent to the SWRCB stating their objections to the Board for its failure to hold those agencies accountable for their actions. (Attachment 4.) The records also prove that the governments' illegal water exports contribute to the decline, destruction and subsequent listing of certain aquatic species as threatened or endangered. The USBR was not cited for the destruction and/or "take" of the fisheries and wildlife, as is normally required by the federal Endangered Species Act against a private entity.

Concluding Statement: The recent decision by Judge Karlton acknowledges the dire conditions of the San Joaquin River as a result of the USBR water-management practices, which reinforces the need to restore the river. We are prepared to provide the appropriate government entities with additional detailed information relevant to the social, economic, and environmental aspects of the ADAP. The plan provides its own revenue generating component that will assist in its implementation, compensatory payments to impacted communities, and other related remediation actions. We await your reply and action.

Respectfully,
Patrick Porgans, Solutionist

Attachments

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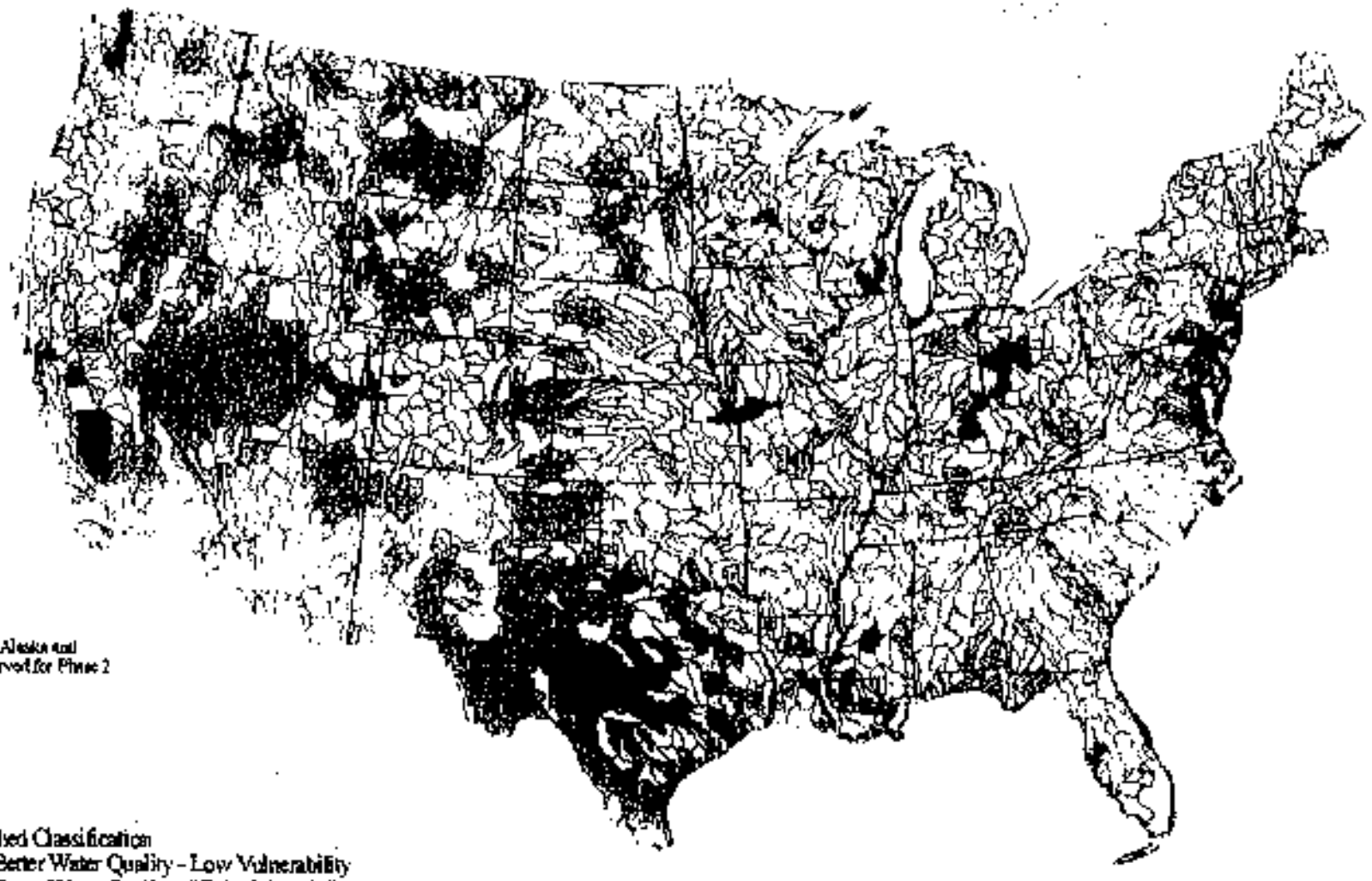
[7] USBR's news release, *San Luis Drainage Feature Re-evaluation*, Feb. 2004.

[8] P&A's letter to USBR's Commissioner Keys and Kirk Rodgers, Regional Dir, August 27, 2004.

[9] CVRWQCB's *Proposed Amendment to the Sacramento River and San Joaquin River Water Quality Control Plan for the Control of Salt and Boron Discharges into the San Joaquin River – A Continuation of the Dec 2003 Workshop*, Jan. 29 and Jan. 30, 2004.

[10] Public Hearing, State Water Resources Control Board, Division of Water rights, Public Hearing, Subject: Consideration of Compliance with Water Right Requirements for the Sacramento-San Joaquin Delta and Suisun Marsh, Nov. 20, 1992.

National Watershed Characterization



Analysis of Alaska and Hawaii reserved for Phase 2

Watershed Classification
- Better Water Quality - Low Vulnerability
- Better Water Quality - High Vulnerability
- Less Serious Water Quality Problems - Low Vulnerability
- Less Serious Water Quality Problems - High Vulnerability
- More Serious Water Quality Problems - Low Vulnerability
- More Serious Water Quality Problems - High Vulnerability
- Data Sufficiency Threshold Not Met

Index of Watershed Indicators

http://www.epa.gov/surf

EPA

June 30, 1997

EPO

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209 525-9311 Fax

Wastewater Collections
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Environmental Compliance
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Co-Compost Operations
209 548-[illegible]
209 [illegible] Fax

September 1, 2004

Mr. Eric Oppenheimer
California Regional Water Quality Control Board,
Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, California 95670

Dear Mr. Oppenheimer:

The City of Modesto appreciates the continued opportunity to submit comments on the proposed *Basin Plan Amendment for the Control of Salt and Boron Discharges into the Lower San Joaquin River*, as revised in July 2004. We also commend the Regional Board staff for working diligently on the *Basin Plan Amendment* and for trying to address the issues of concern expressed by many diverse stakeholders.

Overall the City is comfortable with the approach outlined within the proposed Basin Plan Amendment as it applies to NPDES permit holders with waste load allocations. Especially since the proposed compliance schedule is adequate to address the complex nature of salt within the City's effluent. However, the City would like to see additional language within the Basin Plan Amendment that assures that renewed or reopened NPDES permits include the compliance schedules provisions as proposed. In order to provide such assurances, the City recommends the following amendment to the language proposed for Chapter IV, #5. (The City's recommended amendment is double-underlined.)

> Waste Load Allocations are established for point sources of salt in the basin. NPDES permitted discharges will not exceed the salinity water quality objectives established for the LSJR at the Airport Way Bridge near Vernalis. The Regional Board will revise NPDES permits to incorporate TMDL allocations when the permits are renewed or reopened at the discretion of the Regional Board. NPDES permits revised to incorporate TMDL allocations must include compliance schedules that are consistent with Time Schedules for Implementation included as part of the Control Program for Salt and Boron Discharges into the Lower San Joaquin River (LSJR).

With this amendment, implementation of the control program will be consistent for all NPDES permit holders and not left to the individual discretion of individual permit writers.

Thank you again for the opportunity to comment on the revised *Basin Plan Amendment*. If you need further information or clarification, please call John Rivera (209-577-6381) or me at (209-577-6387).

Regards,

Robert Howard
Deputy Director of Public Works

cc: John Rivera, Environmental Compliance Supervisor
Tess Dunham, Larry Walker Associates